

REMARKS

Claims 1-23 are pending in the application.

Claims 1-23 are rejected.

Rejections Under 35 USC 103

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 3,732,934 to Brandenburg in view of USPN 3,951,217 to Wallace further in view of USPN 2,727,598 to Mitchell. Applicant traverses the rejection of claims 1-23 as improper for failing to form a prime facie case of obviousness by teaching each and every element of the rejected claims.

The Examiner purports that “[w]ith regard to claim 1, the reference of Brandenburg discloses a control device (work control device, abstract) comprising a pressure regulator comprising a valve (62 check valve), and configured to limit a maximum pressure provided to the motor (10); a torque limiting timing device (restrictor 56) comprising at least one valve (28), configured and capable of shutting-off fluid flow to a motor (10) at a predetermined time by restricting the air flow to the motor (see col. 4, line 56), and in fluid communication with a pressure regulator (62 check valve); a reservoir (58) in fluid communication with the pressure regulator (62 check valve); and a valve (40) which adjusts the reservoir thereby controlling the pressure and the timing device (restrictor). The reference of Brandenburg teaches a work control mechanism as shown in Figure 1 including a torque limiting timing device (col. 4, line 31) being in fluid communication with a pressure regulator (valve 28) for turning off fluid supply to the motor.” (Emphasis added)

Accordingly, it is not clear if diaphragm valve 28 or check valve 62 is the pressure regulator valve. Furthermore, it is not clear if diaphragm valve 28 is a torque limiting device or a pressure regulator valve. Based upon this rejection, it is ambiguous what the Examiner means

when referring to the pressure regulator valve and torque timing device. A pressure regulator valve is a valve that controls the maximum pressure that the motor receives (while still supplying pressure). A shut-off valve is not a pressure regulator valve- - it is a shut-off valve. The shut-off valve 28 of the '934 patent would not be able to regulate pressure, it is either on or off.

Furthermore, a check valve 62 is not a pressure regulator valve, it is a check valve. It only allows fluid to flow in one direction. Also, a shut-off valve 28 is not a torque timing device. It has nothing to do with timing, it either shuts the motor off or leaves it on. Respectfully, the final is improper because applicant has not been apprised of the true nature of the rejection because of the ambiguity of the rejection. Furthermore, the Applicant's claims require a separate pressure regulator valve and a shut off valve that are in communication with each other that is not disclosed in the '934 patent and thus the Examiner may not use both for the same function.

The '934 patent teaches at col. 4, ln. 31 that:

"The timing mechanism includes a variable restrictor 56 in series via conduit 57 with a reservoir 58 from which there is an output 60 to the first valve means 28. A check valve 62 is interposed about the restrictor 56 and is parallel therewith to permit reverse flow from the reservoir 58 and ultimately out the restrictor 52 to the atmosphere. The check valve 62 thus serves as a means for exhausting the reservoir 58 and conduit 60 in a rapid fashion not possible through the restrictor 56." (Emphasis added)

The '934 patent further teaches at col. 6, ln. 16 that:

Note that release of the trigger mechanism 22 resets the circuit. That is, release of the trigger mechanism 22 causes the valve 32 to open. The main line is also opened at this time. The upper chamber 44 of the second valve means 40 thus becomes pressurized causing the diaphragm 46 to seat. Simultaneously, fluid in the reservoir 58 is exhausted through check valve 62 and restrictor 52. In this manner, the mechanism is reset." (Emphasis added)

The "check valve 62" of the '934 patent as quoted above functions to vent the reservoir 58 to reset control mechanism the and does NOT provide any pressure regulation function to the motor. Upon thorough review of the specification there is NOT any means of regulating pressure

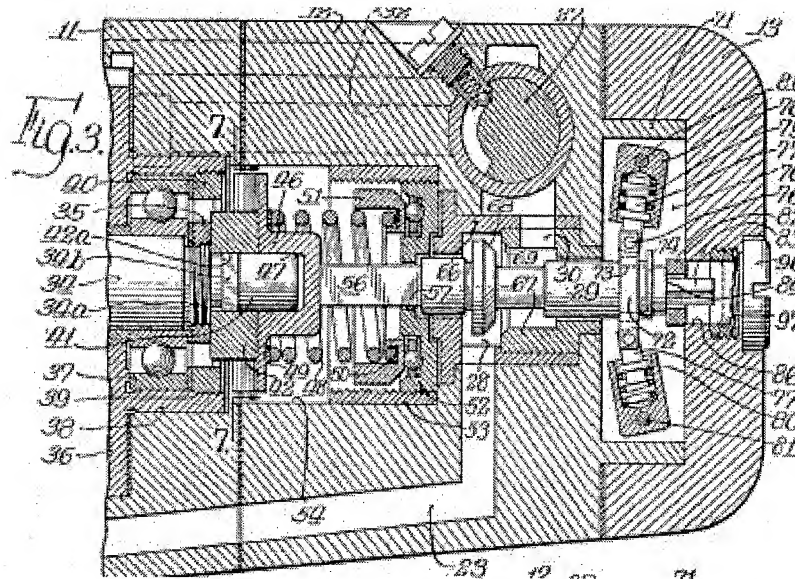
provided by the '934 patent whereas the claims of the instant invention require the control device to contain both a pressure regulator to "limit a maximum pneumatic pressure to the motor" AND a separate shutoff valve. The '934 patent is deficient in teaching a pressure regulator and also as admitted by the Examiner it fails to teach the use of slidable valves.

The Examiner purports in the rejection that "*the reference of Wallace et al. teaches pressure regulator (29) including a slidable valve (45) and a spring (46) which biases the valve. Further, the reference of Mitchell et al. teaches torque limiting timing device (46) including a slidable valve (29) and a spring (48) which causes the valve movement. In view of the teaching of Wallace et al., it would have been obvious to one having skill in the art at the time the invention was made to incorporate the slidable valve and the spring the as taught by Wallace et al., into the pressure regulator of the control device of Brandenburg in order to provide advantage of biasing force of the spring over the diaphragm. In view of the teaching of Mitchell et al., it would have been obvious to one having skill in the art at the time the invention was made to incorporate the slidable valve and the spring the as taught by Mitchell et al., into the torque limiting timing device of the control device of Brandenburg in order to provide advantage of biasing force of the spring over the diaphragm." (Emphasis added)*

In *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984), the Federal Circuit held that it was not enough that the reference disclose all the claimed elements in isolation, but "the prior art reference must disclose each element of the claimed invention arranged as in the claim." The aforementioned patents may each disclose a slidable valve with a spring having a function of either pressure regulation or motor shut-off, but it is not taught to be arranged as in the Applicant's claims and therefore would not perform the Applicant's claimed functions without improper hindsight reasoning. The Brandenburg '934 patent as discussed above clearly does not include a pressure regulator as

required.

The Wallace '217 patent does disclose a slidable pressure regulator to control maximum pressure, and it can not be set to have an adjustable pressure by communication with a reservoir as it is controlled with the reverse valve and only the Applicant's specification would provide the motivation to arrange in the manner claimed by the Applicant. The combination of the Wallace '217 patent with the Brandenburg '934 patent would NOT motivate one skilled in the art to have



the pressure regulator of the '217 patent be in communication with either a shut off valve or a reservoir controlled by a metering device.

The Mitchell '598 patent (shown below) does not even disclose a pressure regulator valve and thus is silent whether a pressure regulator valve should be in communication with the shut off valve, and it also fails to provide a reservoir controlled by a metering device.

The Mitchell '598 patent, as purported by the Examiner, does not disclose “ a metering device to control the reservoir thereby controlling the pressure and the timing of said tool,” but it does disclose a “torque limiting timing device (46) including a slidable valve (29) and a

spring (48) which causes the valve movement” (Emphasis added) The valve and spring does not perform the claimed function because the spring does not “bias open the valve,” but it is used to bias the valve closed upon impacts and thus it teaches away from the instant invention.

Furthermore, the Mitchell ‘598 patent as shown clearly has no provisions to control the **TIME** that torque is being applied by the tool by the use of a reservoir or fluid pressure if the valve and spring setup were applied to the combination it would not provide motivation to produce the claimed invention. The ‘598 patent teaches that its function is to provide “*a torque controlling or limiting device for application to an impact wrench comprising means controlling or stopping wrench operation in response to a sudden deceleration of said tool resulting from a predetermined increased resistance of said work to the driving torque upon impact.*” Whereas the instant claimed invention controls BOTH the time and the torque that is applied by the tool with the use of a reservoir to control the position and function of the valves. The ‘598 patent as taught by the specification can only control the peak torque caused by impact and has no control of the TIME to shutoff as it is controlled by the impact and the inertia ring 46 that are mechanical forces.

Opposite from the Applicant’s claimed apparatus using fluid communication, the Mitchell ‘598 patent teaches a spring loaded valve in mechanical communication with the tool that is thrust closed by impact from the workpiece, not the adjustment of a flow restrictor. (See Col. 5, lines 43-65) Mitchell teaches “**by threaded adjustment of the ring 52 the tension of the spring 48 against the inertia ring 46 may be varied** so as to vary the desired degree of tightness at which **the torque limiting device may become operable**” (emphasis added) See Col. 5, lines 16-20. Therefore, Mitchell teaches away from the Applicant’s metering device to adjust timing and shut off the motor by adjusting a flow restriction with a valve as claimed by the Applicant. The ‘598 patent does not suggest or disclose adjusting the flow restriction so as to control the output of the

modular apparatus, **the timing** or the shut off, but instead it teaches changing spring tension to control shut off, it is a different valve and spring for use in a different device than the Applicant's.

The Court held that *"to imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher."* (See *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). In this instance, the Applicant's control apparatus and is not the invention taught by the combination suggested by the Examiner that performs a different function in a different manner from the Applicant's invention. The Examiner's rejection is the essence of improper hindsight reasoning as the claims were used as a template to select the prior art references that consists of single elements that when combined can't be used in the manner that the Applicant's claims require.

To reiterate the facts of the teaching of the references above, the Brandenburg '934 patent, upon close inspection, does NOT teach the use of a pressure regulator and has no means to maintain a maximum pressure to the tool, and if the supply pressure spikes it to the tool it teaches no means to address this situation. The Wallace '217 patent teaches a pressure regulator with a slidable valve and a spring bias that regulates maximum pressure, but other than the mere presence of the element one skilled in the art would not be motivated to combine it with the '934 in the manner as arranged in the Applicant's claim. The '217 patent teaches the use of the pressure regulator for purposes of controlling peak torque and the '934 patent teaches the use of a shut off valve to control total torque, but one skilled in the art would not be motivated to combine both pressure regulation AND a shut off to control torque to the workpiece without motivation greater than just the mere presence of the element in the art. The Mitchell '598 patent as discussed above does not teach that the spring is used to bias the valve open, as claimed by the

Applicant, but it is used to shock the valve closed upon impact. If one skilled in the art were to combine the references it would not teach the Applicant's invention "as arranged in the claim" as required in a proper obviousness rejection. In view of the deficiencies in forming a prime facie case of obviousness for claims 1-23 that Applicant respectfully requests reconsideration and removal of the rejection and allowance of the application.

CONCLUSION

Based on the preceding amendments, Applicant respectfully submits that claims 1-23 and the entire application meet the acceptance criteria for allowance and therefore request favorable action. An extension of time for response and payment if required may be charged to the deposit account. If the Examiner believes anything further would be helpful to place the application in better condition for allowance, Applicant invites Examiner to contact Applicant's representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account No. 19-0513.

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Respectfully submitted,

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